Senior Project RFP
PetCare

California State University of Long Beach
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Class: CECS 491A Section 04 7231

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Version History

Version 1.0

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Overview

Abstract

We intend to create a worry-free environment for pet owners and enthusiasts alike. With numerous features to track, monitor, and interact with your dog, we can take away the stress of leaving them unattended. Along with safety, we have created ways to interact with your pet while away. With pre-recorded sounds and even a live chat function, communication with your pets is seamless.

User Needs

Many people own pets and are very attached to them but can be very busy to the point where they are left unattended for a long period of time. Pet dogs can feel anxious or nervous thinking that their owners left them which is also known as separation anxiety. This can negatively impact their behavior and relationship with the owner in the long run. So far, other applications are created for the purpose of understanding your pet's behavior but not maintaining or improving it. We strive to help pets cope with the separation time between their owners through an interactive and responsive application.

Value

Problem

With so many different pet services out there, it could be a hassle managing all of them at once. Along with the fact that some services feel incomplete with a simplistic view at taking care of the user's pet dogs. Services like Rover will focus only on finding a caretaker for your dog and Barkio focuses only on viewing their dog while they are away. New pet owners will have to spend a day searching reviews, downloading apps and making multiple accounts with many companies just to get a complete set of dog car services.

Proposed Solution

Our website will become a one-stop shop for all of our user's pet care needs. It will allow services to keep their pet dogs entertained using our Interactive Petcam, Reactive sounds, and Live Chat. When our users have to leave for a trip or simply go to work and they can not bring their dogs, we have services that will allow them to review and connect to many different pet sitting services. Additionally, to make the website more interactive for the users, there will be a social tab for them to show off their pets and for them to give each other tips and tricks and how they each care for their own pets.

Competitors

Our main competitors include other applications and tangible items like pet toys. Pet toys are the easiest and simplest way to keep your pet busy but require the item to be purchased and delivered. Our application has similar goals to our competitors but with distinguishable features that set us apart from the rest.

Competing Applications

- **Rover**
    - Mobile app to monitor dogs for pet owners.
    - **Purpose:** The purpose of Rover is to find a dog sitter for either a short period or for over multiple nights. They also offer dog walking, and drop-ins to take the dogs for a potty or refill food and water.
    - **Audience:** The audience are pet owners that have to be gone for extended periods of time and need someone to assist their dogs.
    - **Difference:** The differences between Rover and our product is that we will also offer other services like setting appointments with groomers and
- **Barkio**
    - Mobile app to monitor dogs for pet owners.
    - **Purpose:** The purpose of Barkio is to monitor dogs and help them overcome separation anxiety.
    - **Audience:** The audience are pet owners that have pets dealing with separation anxiety.
    - **Difference:** The differences between Barkio and our product is that they focus on monitoring pets and recording their actions to understand their behavior like tail wiggles.

Pet toy Companies

- **Kong and West Paw**
    - Dog and cat toy selling company
    - **Purpose:** Help cats and dogs physically and mentally. They create pet toys that help weight management, separation anxiety, boredom, etc.
    - **Audience:** The audience are pet owners that want to keep their pet busy or improve their pet's lifestyle and behavior.
    - **Difference:** The difference between the pet toy companies, Kong and West Paw, and our product is that people who want their products have to purchase and wait for it to be delivered while ours is free and easily accessible through the web.

Functionality

Product Features

Interactive Petcam:

A video display showing other live pets that activates through motion sensing. It will use a motion detection API called Motion-project that tracks if a pet dog is still in view of the camera and if they are still in view of the camera it enters them in a queue to view another pet waiting. While the two pets are able to view each other, this service will be monitoring the volume spikes using Web Audio API to know when to switch. The service will switch to another pet if there is constant loud barking which could be deemed as the dog being irritated or unfriendly with the dog currently in the video.

Pet Sitting Services:

This feature will allow the pet owners to see a list of online kennel and boarding services based on rating and how close by it is to the owners location. When the user finds a place they would like to try then they will have a button that will open a new tab to the business's webpage or Yelp page. It will also allow for users to leave a review and rating on our website for other users to use as a secondary review to judge businesses.

Reactive sounds:

A feature to interact with their pet through feedback. As the pet makes noises, the web application will create sound to interact with the pet. These can be stock or imported audio clips using .mp3 files. Different audio clips are determined by the audible frequency of the pet registered by an input device.

Live Chat:

A live audio feedback from your device is relayed to the one near the pet. Audio is relayed through microphones whether it be laptops or dedicated microphones. At any time, owners can have a live chat session with their pet to calm them down.

Pet Care Services:

This service allows the user to schedule an appointment for either a pet groomer, veterinarian, trainers, or even sitters. Businesses will be able to create a business account and list their services along with their prices and requirements. Pet owners and the businesses will be able to communicate to each other using a built in chat system that uses SendBird API. Therefore users can talk and describe what they need and businesses can check if they can accomplish what the user needs to see if they will accept the job.

Sharable Content:

Share clips from interactive webcam to other users, with the option to easily share their clips to popular social media websites including Facebook, Twitter, Instagram. It will have options to record the entire time or to only record a timed clip during high intensity times that are triggered by a combination of sound and motion.

Pet Profiles:

This allows the users to create a profile for their pet(s). In these profiles, the user can input what kind of pet they have, what their breed is, what their likes and dislikes are, and some other fun facts about their pet if they choose to do so, it would also allow the user to create multiple pet accounts for each pet. This will make it easier for the pet care services to know all the information they need to know about the pet, and other users can see this information if they are curious about another user's pet. Additionally, there will be a social tab that will let users share tips and tricks on how they take care of and manage their own pets.

Future Vision

Since this is only a web application, we have future plans to turn this into an actual iOS app for better convenience and for the possibility for more features. One such feature could be allowing the user to pay for the pet care services via the app rather than having the user pay the person directly. This would be a much more convenient way of paying for the service and it could even implement the Apple Pay feature that most iOS devices have. Additionally, we could use this app to allow the user to connect their device to camera's that are not directly connected to their device, allowing for multiple angles when watching over their pet. Also, our current idea focuses mainly on dogs so we plan on adding more features that would benefit the care of different types of pets, such as cats or birds.

Product Scope

For this web application, it will contain common components for creating, deleting, editing accounts and the ability for account recovery. It will also have user access control to have different users with different permissions. For developers, it will have logging and log archiving to monitor important activities. To connect with others, there will be authentication along with a profile tab to further personalize your account. It will also have error handling for input validation, run-time error, and allow for user feedback.

Project Scope

This project will be a single page application with the supported client being Google Chrome Version 104.x (64 bits). We plan on targeting our service to users over the age of 14 that live in California in the United States of America. The language and units we will be supporting at release in this application will be following the standards of U.S. english (en-US).

Software

The integrated development environment (IDE) our team will be using to create this single page application will be Microsoft’s Visual Studio Code 1.70+ and Visual Studio 2022 Community Edition. Our programmers will also be using Microsoft’s .Net 6.x to create a backend framework. The main coding language the application will be using is C# 10/11. For our data stores we will be using SQL Server 2019 Developer/Express Edition (Database Engine). The program's web servers will be created using Internet Information Services (IIS) 10.0+.

References / Glossary

References

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Glossary

Term/Acronym	Definition
Application Programming Interface (API)	A set of functions or features and procedures allowing the creation of applications that access the features or data of an operating system, application, or other services.
iOS	An operating system made by Apple used for their mobile devices.
Motion-Project	An API created by GitHub user Mr-Dave that focuses on camera motion detection features.
MP3	A type of file that holds audio for digital transmission
Operating System	The software that supports a computer's basic functions, such as scheduling tasks, executing applications, and controlling peripherals.
Responsive	Appropriate and accurate response to something.
SendBird	An API created by PubNub that focuses on web chatting service features.
Web-Audio	An API created by Mozilla that focuses on live audio detection and streaming features.